Amendments to the Claims:

Claims 1-38 (cancelled)

Claim 39 (previously presented): A process for determining useful properties of individual building blocks of a material library comprising a substrate having two individual building blocks in two sections which are separated from one another, which comprises:

simultaneous measurement of a first parameter at the two sections with a first sensor, with the first parameter giving an indication of a first property of the respective building blocks; and

measurement of a further parameter with a further sensor, the further parameter giving an indication of a further property of the respective building blocks.

Claim 40 (previously presented): A process according to claim 39 wherein the further parameter is measured only for a selected group of sections, the choice of a section for measuring the further parameter depending on the respective result of the measurement of the first parameter.

Claim 41 (previously presented): A process according to claim 39 which further comprises the preceding step of producing a material library comprising the substrate to be measured.

Claim 42 (previously presented): A process according to claim 39 which further comprises the preceding step of introducing a starting material into the two substrate sections which are separated from one another of a material library for carrying out a chemical or physical or chemical and physical conversion of the starting material in the two substrate sections separated from one another, in each case in the presence of the corresponding building block, obtaining in each case an effluent stream containing a conversion product and/or starting material.

Claim 43 (previously presented): A process according to claim 42 wherein the further parameter is measured in each case in the effluent stream of the selected sections.

Claim 44 (previously presented): A process according to claim 42 with the respective effluent stream of the selected sections being passed to the further sensor via a sniffing capillary positioned in the effluent stream of the selected sections by means of a suitable drive means.

Claim 45 (previously presented): A process according to claim 44 wherein the drive means is controlled automatically by the data processing system.

Claim 46 (previously presented): A process according to claim 39 wherein the sections for the further measurement are automatically selected by a data processing system.

Claim 47 (previously presented): A process according to claim 39 wherein the first sensor is based on color detection using a chemical indicator.

Claim 48 (previously presented): A process according to claim 39 wherein the first parameter is a temperature or a temperature change, and infrared thermography via the first sensor makes measurement of the temperature or temperature change.

Claim 49 (previously presented): A process according to claim 39 wherein the first parameter is a temperature or a temperature change, and the temperature of the individual sections is measured in each case via a thermocouple.

Claim 50 (previously presented): A process according to claim 39 wherein the first sensor is an infrared camera which determines the temperature of the sections in an integrated manner.

Claim 51 (previously presented): A process according to claim 39 wherein the further sensor is based on a method which is selected from the group comprising mass spectrometry, gas chromatography, gas chromatography/mass spectroscopy, Raman spectroscopy, and FT-IR spectroscopy.

Claim 52 (previously presented): A process according to claim 39 wherein the substrate is a tube bundle reactor or heat exchanger and the sections are channels.

Claim 53 (previously presented): A process according to claim 39 wherein the substrate is a block of a solid material which has channels.

Claim 54 (previously presented): A process according to claim 39 wherein the two individual building blocks have catalytic properties.

Claim 55 (previously presented): A process according to claim 54 wherein the two individual building blocks are heterogeneous catalysts and/or their precursors.

Claim 56 (previously presented): A process according to claim 55 wherein the two individual building blocks are inorganic heterogeneous catalysts and/or their precursors.

Claim 57 (previously presented): A process according to claim 54 wherein the two individual building blocks are solid catalysts or supported catalysts and/or their precursors.

Claim 58 (previously presented): A process according to claim 57 wherein the two individual building blocks are present in each case as catalyst bed, tube-wall coating or auxiliary support coating.

Claim 59 (previously presented): A process according to claim 54 wherein the first property is the respective activity of the building blocks.

Claim 60 (previously presented): A process according to claim 54 wherein the second property is the respective selectivity of the building blocks.

Claim 61 (previously presented): A process according to claim 39 wherein the reaction is selected from:

decomposition of nitrogen oxides, the synthesis of ammonia, the oxidation of ammonia, oxidation of hydrogen sulphide to sulphur, oxidation of sulphur dioxide, direct synthesis of methylchlorosilanes, oil refining, oxidative coupling of methane, methanol synthesis, hydrogenation of carbon monoxide and carbon dioxide, conversion of methanol to hydrocarbons, catalytic reforming, catalytic cracking and hyrdrocracking, coal gasification and liquefaction, heterogeneous photocatalysis, synthesis of ethers, in particular MTBE and TAME, isomerizations, alkylations, aromatizations, dehyrogenations, hydrogenations, hydroformylations, selective or partial oxidations, aminations, halogenations, nucleophilic aromatic substitutions, addition and elimination reactions, dimerizations, oligomerizations and metathesis polymerizations, enantioselective catalysis and biocatalytic reactions.

Claim 62 (previously presented): An apparatus comprising:

means for receiving two individual building blocks, each comprising a substrate having two different sections which are separated from one another;

means for introducing a starting material;

a first sensor for measuring a first parameter;

a further sensor for measuring a second parameter; and

a data processing device which selects the sections for measuring the further parameter on the basis of the results of measurement of the first parameter according to criteria which can be determined in advance.

Claim 63 (previously presented): An apparatus according to claim 62 wherein the first sensor is for measuring a temperature or a temperature change.

Claim 64 (previously presented): An apparatus as defined in claim 62 wherein the first sensor is based on color detection using a chemical indicator.

Claim 65 (previously presented): An apparatus according to claim 62 wherein the first sensor is an infrared camera.

Claim 66 (previously presented): An apparatus according to claim 62 wherein the further sensor is based on a method which is selected from the group comprising mass spectrometry, gas chromatography, gas chromatography/mass spectroscopy, Raman spectroscopy, and FT-IR spectroscopy.

Claim 67 (previously presented): An apparatus according to claim 66 in which the further sensor is a quadrupole mass spectrometer.

Claim 68 (previously presented): An apparatus according to claim 62 further comprising a sniffing capillary for feeding the effluent stream of a section to the at least one further sensor and drive means for positioning the sniffing capillary for receiving the effluent stream of one section under study.

Claim 69 (previously presented): An apparatus according to claim 62 in which the substrate has a planar arrangement having a wire grid or foamed ceramic.

Claim 70 (previously presented): An apparatus according to claim 62 further comprising a housing in which the substrate is disposed.

Claim 71 (previously presented): An apparatus according to claim 70 further comprising means for heating the housing and/or means for cooling the housing.

Claim 72 (previously presented): An apparatus according to claim 70 wherein the housing has an IR-transparent window, and the infrared camera is disposed outside the housing in front of the IR-transparent window.

Claim 73 (previously presented): An apparatus according to claims 62 wherein the substrate comprises a block made of electrically conducting material exhibiting sections having the form of channels, said block being heatable by the principle of a resistance heating.

Claim 74 (previously presented): An apparatus according to claim 73 wherein each channel comprises a carrier.

Claim 75 (previously presented): An apparatus as defined in claim 73 wherein the carriers are synthesized into the channels.

Claim 76 (previously presented): An apparatus according to claim 73 wherein each carrier and/or channel comprises a building block.